

RANCHO SANTA ANA BOTANIC GARDEN
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FRAGARIA CHILOENSIS
BEACH STRAWBERRY

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RANCHO SANTA ANA BOTANIC GARDEN
of the
NATIVE PLANTS OF CALIFORNIA
Santa Ana Cañon, Orange County, California
Established 1927 in Memory of
JOHN W. BIXBY

FRAGARIA CHILOENSIS
BEACH STRAWBERRY

Rosaceae

Rose Family

Evergreen perennial 3-8 in. high, old stems thickly clothed with brown leaf bases and bearing 6-12 living leaves. Plants spread by runners which may extend many feet in a season. Leaves 3-foliate with hairy petioles 2-6 or even 8 in. long; stipules $\frac{1}{2}$ in. long, persistent, membranous, pale green, soon turning brown; leaflets nearly sessile, or petiolate, central one largest, coriaceous, glossy dark green, glabrous and reticulate above, whitish beneath with covering of hairs, cuneate-obovate, $1-1\frac{1}{2}$ in. long, the 8-10 crenate teeth confined to the upper oval margin. Flowers white, showy, often nearly $1\frac{3}{8}$ in. across, 1-5 or 6 in a cyme on a naked scape several inches long, bearing a single leaflet-like bract at the fork (bract absent in some forms and scape so short that flowers appear sessile in leaf axils). Calyx of 5 ovate, green, hairy sepals $\frac{1}{2}$ in. long, these alternate with the smaller and narrower bracts. Petals white with a diffused blotch of yellow at base, nearly orbicular, about $\frac{1}{2}$ in. long, contracted to a very short claw. Stamens and pistils yellow; stamens about 20, filaments dilated, anthers minute, opening by a longitudinal slit (some plants bear sterile anthers and are thus pistillate). Receptacle convex, bearing about 100 pistils; after fertilization the receptacle enlarges to form the fleshy edible fruit known as a strawberry, the surface of which is dotted with the achenes. At maturity the fruit is $\frac{1}{2}$ - $\frac{3}{4}$ in. in diam., of good flavor. Flowers from February to April (sometimes later); fruits ripen from April to July.

The genus *Fragaria* (an old Latin name in reference to the fragrance of the fruits) consists of 8-40 variable and closely related species of the temperate regions of Europe and North and South America (number of species depends greatly on viewpoint as to specific limits). California has 3 or 4 species of which the present and *F. californica* are the most abundant. The latter species is widespread in the forests. *Fragaria* is closely related to *Duchesnea*, an Old World genus with yellow flowers and inedible fruits, which is often used as a ground cover and is frequently mistaken for a true strawberry.

Fragaria chiloensis (specific name in reference to its Chilean origin) is the first New World species to become known, having been taken to Europe in 1712 by M. Frezier, a Frenchman. Linnaeus described it in 1753 as a variety of *F. vesca*, a European species. Duchesne, a French student of the group, decided it was distinct from that species and raised it to specific rank in 1766. S. Watson, an American botanist, described a variety *Scouleri* from British Columbia in 1878, characterized by rather long scapes with a single leafy bract. Most of our California plants are apparently referable to this variety.

Natural distribution of *F. chiloensis* is along the coast of South America from Peru to Patagonia and on the west coast of North America

from Alaska to California, where it reaches its southern limit at Oso Flaco, San Luis Obispo Co. From Monterey northward it has an almost continuous distribution along the coastal bluffs and sand dunes. It is known as the Beach or Sand Strawberry and is so abundant in many areas that the local residents are able to gather quantities of the delicious but rather small fruits.

Fragraria chiloensis is of historical interest in the development of the cultivated strawberries. When first introduced it was grown without improvement, but the early importations from South America were all pistillate plants and other species with fertile stamens had to be planted nearby to produce fruits. Later it was used in hybridization work and has thus been the partial source of some of the present day commercial varieties.

The Beach Strawberry is an excellent evergreen ground cover which has been thoroughly tested and used in California for many years. A fine planting can be seen at the Santa Barbara Botanic Garden. We have had it under cultivation at the Garden since 1927 when we first obtained plants from Monterey. Other strains at the Garden came from Del Norte and San Luis Obispo Cos. The latter strain has extra large, highly glossy leaflets and flowers borne on very short scapes, and appears to be an outstanding strain superior to the others.

Of the numerous plants used in California as ground covers the Beach Strawberry is one of the best, but it can not be expected to thrive under all conditions or to replace all of the others. Near the coast it can be used in full sun, while further inland it does better in partial or full shade. It should not be planted in the hot interior valleys. It is not particular as to soils, but will make little growth in pure sand unless fertilized regularly. In very heavy clay soil it sometimes turns yellow after prolonged wet seasons, and when plantings are made in this type of soil care must be taken in grading to avoid low, poorly drained spots. A cushion of sand or sandy loam is a distinct advantage under such conditions. Little water is needed except to establish the plants and during the summer months when a light application every week is sufficient. Prior to making a new planting the ground should be worked and watered for several weeks to eliminate the weeds. Ground heavily infested with Bermuda Grass should never be used, for it will almost certainly eventually choke out the strawberries. Rooted plants set about 18 in. apart will give a cover in about 6 months. After two or three seasons a planting will require a yearly renovation, which consists of a vigorous raking to remove the old growth and excess runners. This should be followed by a high mowing and an application of weed-seed-free manure or commercial fertilizer. Late winter is probably the best season for renovation. Plants are readily obtainable from nurserymen, or those persons living near the coast in central or northern California can easily dig their own without in the least depleting the supply.

CARL B. WOLF

RANCHO SANTA ANA BOTANIC GARDEN

Dedication of Garden Foundation to the Board of Trustees for the Rancho Santa Ana Botanic Garden of the Native Plants of California:

THE NATURE, OBJECT AND PURPOSE OF THE INSTITUTION
HEREBY FOUNDED AND TO BE MAINTAINED HEREUNDER.

ITS NATURE: A botanic garden of the native plants of California, herbarium and botanical library, containing living and/or preserved specimens of trees, plants and flowers native to California, and literature relating thereto.

ITS OBJECT: The preservation and improvement of the property now transferred and such property as may hereafter be transferred to the Trustees for those who not only wish to enjoy, but to study, assembled in one accessible locality, native California plants; and for the advancement of science and education with reference to plant life indigenous to the State of California.

ITS PURPOSES: (a) An institution founded primarily for scientific research in the field of local botany.

(b) To preserve the native California flora, try to replenish the depleted supply of some of the rarest plants which are rapidly being exterminated, and bring together in a comparatively small area as complete a collection of the rich store of native California plants as can be grown in this southern section of the state, thereby promoting the general welfare of the people of the state by providing the means for encouraging and carrying on the above mentioned activities in said state and by doing such other things as may be necessary and desirable to carry out the objects hereof."

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